



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,356	10/14/2005	Hartmut Sauer	68001-008US1	2206
69713 7590 04/02/2009 OCCHIUTI ROHLICEK & TSAO, LLP 10 FAWCETT STREET CAMBRIDGE, MA 02138				
EXAMINER				
KERNS, KEVIN P				
ART UNIT		PAPER NUMBER		
1793				
NOTIFICATION DATE		DELIVERY MODE		
04/02/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

INFO@ORTPATENT.COM

### Office Action Summary

**Application No.**

10/553,356

**Applicant(s)**

SAUER, HARTMUT

**Examiner**

Kevin P. Kerns

**Art Unit**

1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2008 and 22 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 and 19-23 is/are rejected.
- 7) ☒ Claim(s) 18 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In this instance, the amended abstract continues to recite essentially the same language as claim 1.

2. The abstract of the disclosure is objected to because the 1<sup>st</sup> line of the amended abstract ("clean copy" of January 22, 2009) should either have the term "a" (before "spraying") be deleted or have "tools" replaced with "tool" (after "casting") for correct singular/plural noun agreement. Correction is required. See MPEP § 608.01(b).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-17 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jansson (US 4,231,982) in view of Belouet et al. (US 2003/0031803).

Jansson discloses a process for the manufacture of tools for deep drawing, molding (casting), extruding, or the like, in which the method includes providing prototypes starting out from models (working model 10 that comprises plastic, wood, wax, or the like – column 1, lines 50-53), in which the process includes the steps of providing a surface of the working model 10 (not subjected to chemical pretreatment) having a release coating 11, such that the surface of working model 10 is provided with a thermal sprayed metal layer 12 of silicon carbide of optimally selected mesh size to roughen its surface (“the upper surface of the sprayed layer as seen in the figure thereby becomes somewhat uneven” – column 1, lines 38-40; and Figure 1B); applying an intermediate layer (wearing coating 14 of metal or metal alloy) by spraying; applying a composite material consisting of a non-metallic substrate containing at least one polymer (thermosetting plastic material 15 that includes a polymer resin); and removing the model 10 (that includes thermal sprayed metal layer 12 having a thickness of 2-5 mm and would have an HRC value exceeding 50 if alloyed tool steel is used – see abstract) from the intermediate layer (wearing coating 14 of steel) upon heating the assembled working model that includes thermal sprayed metal layer 12 and wearing coating 14 (heated rather than applied by thermal spraying, CVD, PVD, or laser treatment) upon curing of the plastic material 15, as shown in Figure 3, such that the wearing coating 14 adheres (column 2, lines 61-65) in an outstanding manner to the

micro pores, which is interpreted as backfilling of the coating (abstract; column 1, lines 41-68; column 2, lines 1-68; column 3, lines 1-14; and Figures 1-3). Jansson does not disclose that a metallic or ceramic coating is applied onto the intermediate layer by a chemical reduction process.

However, Belouet et al. disclose a method of metallizing a substrate part, in which the method (abstract; paragraphs [0008]-[0010] and [0024]-[0060]; and Figure) includes coating the part with a precursor composite material consisting of a polymer matrix (including polycarbonate and polyimide – see paragraph [0028]) doped with dielectric particles, irradiating the surface to be metallized of the substrate part via laser heating or sintering, and immersing the irradiated part in an autocatalytic bath containing metal (copper) ions to deposit the metal ions in a layer by chemical reduction on the surface, such that a laminated composite film is fabricated (paragraph [0060]), with the chemical reduction process being advantageous for obtaining a homogeneous thin film of metallization with high adhesion strength (paragraph [0035]).

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify the process for the manufacture of tools for deep drawing, molding (casting), extruding, or the like, as disclosed by Jansson, by using a metallic (copper) coating applied onto the intermediate layer by a chemical reduction process, as taught by Belouet et al., in order to obtain a homogeneous thin film of metallization with high adhesion strength (Belouet et al.; abstract; and paragraph [0035]).

***Allowable Subject Matter***

5. Claims 18 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach or suggest the features of independent claim 1, and further comprising the step of thermal spraying while using a spraying powder consisting of 30-50% by weight molybdenum powder and 50-70% by weight steel powder (dependent claim 18).

***Response to Arguments***

7. The examiner acknowledges the applicant's amendments received by the USPTO on December 22, 2008 and January 22, 2009. The amendments overcome the prior objections to the specification and claims, the prior 35 USC 112, 2<sup>nd</sup> paragraph rejections, and a portion of the objections to the abstract. However, a previous objection to the abstract remains, but also includes another minor objection (see above sections 1 and 2). The applicant's amendments to independent claim 1 overcome Weiss et al. as a secondary reference under 35 USC 103(a) due to removal of the "thermal spraying" limitation. The applicant has added new claims 19-24. Allowable subject matter is indicated for dependent claims 18 and 24. Claims 1-24 are currently under consideration in the application.

8. Applicant's arguments with respect to the rejected claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin P. Kerns whose telephone number is (571)272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jessica Ward can be reached on (571) 272-1223. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns  
Primary Examiner  
Art Unit 1793

/Kevin P. Kerns/  
Primary Examiner, Art Unit 1793  
March 19, 2009